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JOHN'S CORNER

FLOURIDE Update #2

by John Ferguson

A customer wrote in this week about removing chlorine and other chemicals for a community garden. Hence today's topic.

Name:	Martha R.
E-Mail:	
Subject:	chloramine question
Message:	*John, I was reading your article in LAZY GARDENER on fluoride and then found your PDF on using a small amount of liquid humic acid to neutralize? the chloramine in tap water. Our community garden would benefit from the de-chlorinated tap water. Is there any reaction time required? Once deactivated, will it store that way for a few days (as in a 55gal drum)? Any way to test the water for efficacy? Thank you. Martha*

Martha, There are three toxic ingredients found in municipal water in Texas that have the potential to harm plants and soils; chlorine, fluoride and chloramine. Each has a different method of removal:

chlorine - This chemical will escape to the air over night if water is allowed to just sit out in a barrel or something. There are many products on the market to remove it quickly. These can be found at almost any aquarium supply house/pet store. Running the water through a zinc filter can remove the chlorine almost instantly.

fluoride - This can be removed by allowing the water to sit for a few days or just stir in some form of powdered calcium (only takes a ounce per 100 gallons or even less). Lime (Calcium Oxide will work best, even though limestone will work, just slower).

chloramine - liquid humic acid will work best and should only take 1-2 ounces per 100 gallons of water. I do not know how fast it will take but it should be fairly quick, just stir it in and let sit for a couple hours. If you use

granular humates then is should at least sit over night and use 2-3 ounces per 100 gallons. There are special filters available to remove chloramine quickly.
Once the water is treated it will store as long as you need as the chemicals have been removed or rendered inert.
There are several labs that can test water for these chemicals but probably not worth the effort.
There are combination filters now available that remove all chemicals at once as water passes through them. The nursery "Sweet Organic Solutions" in Pearland may carry some or all of the required products. Ask for Donna Fay.

Regards, John

Since I wrote about the issues with fluoride a few weeks ago I have read over a dozen papers on the problems with fluoride for both gardeners and human health.

Fluoride has been found to be an enzyme poison that prevents enzymes from proper functioning. From the microbes in the soil to all our plants there are literally thousands of enzymes required for proper health and growth. The more we water our yard with fluoride treated water we greatly increase our chance of insect and disease problems and other complications that we do not even understand or even aware of.

From the website below I found a list of plants harmed by fluorine.
http://plantsarethestrangestpeople.blogspot.com/2009/02/fluoride-what-it-is-and-how-its-spelled.

- Cordyline fruticosa is sort of famous for developing burnt tips and margins from fluoride; this, combined with its susceptibility to spider mites, probably accounts for why it's not a more commonly grown indoor plant.
- Chlorophytum comosum will get tip burn from fluoride, sodium, or boron.
- The entire Dracaena clan, except possibly for D. surculosa, gets terrible tip burn when fluoride levels are high; this is a difficult problem to deal with, as Dracaenas are often sold as large, floor-sized specimens which are hard to drag to a water source to flush out.
- Calathea and Maranta spp. (e.g. Calathea ornata, Maranta leuconeura erythroneura) also develop tip and margin burn, especially on the oldest leaves, often with a yellowish halo at the edge of the burn.

- Asparagus spp. don't seem to be that picky about fluoride in water, but fluoride in the air (which sometimes happens following volcanic eruptions, or near incinerators) can cause sudden, massive leaf drop.
- The kentia palm, Howea forsterana, is also sensitive to atmospheric fluoride, and is slightly sensitive to fluoride in the soil.
- Chamaedorea species (elegans, metallica, seifrizii, etc.) get tip burn, as will many other palms (Chrysalidocarpus lutescens, Rhapis excelsa).
- Yucca guatemalensis can experience fluoride toxicity, but it tends to be slow in developing and fairly easy to fix with a soil flush.
- Aspidistra spp. (elatior, lurida) and Tradescantia spp. (zebrina, pallida) are also somewhat, though not extremely, touchy about fluoride.

This list is from the Oregon State University website.

Table 1. Plants sensitive to fluoride.*

Common Name	Scientific Name	Notes
Apricot	Prunus armeniaca	Some cultivars are intermediate insensitivity.
Box Elder	Acer negundo	
Blueberry	Vaccinium corymbosum	
Sweet corn	Zea mays	
Douglas-fir	Pseudotsuga menziesii	
Gladiolus	Gladiolus sp.	Bract and leaf injury.
Grape	Vitis vinifera	V. labrusca is intermediate.
Oregon Grape	Mahonia aquifolium	
Western Larch	Larix occidentalis	
Peach	Prunus persica	Soft suture or red suture disease of the fruit.
Pine	Pinus sp.	Eastern white pine, lodgepole, scotch, Mugho, ponderosa
Plum	Prunus domestica	Flowering plums are resistant.

Blue Spruce	Pice pungens	
Tulip	Tulipa sp.	
Corn plant	Dracaena sp.	Most species and cultivars.
Yucca	Yucca sp.	
Spider plant	Chlorophytum comosum	
Tahitian Bridal Veil	Gibasis pellucida	
Lily	Lilium spp.	

SUMMARY of other papers on FLOURIDE:

One paper was published in the journal Toxicology by researchers from the University of Zaragoza in Spain. They found that at levels recommended by the WHO (World Health Organization) it caused calcification of arteries in the animal studies.

Another study by the Natural News Forensic Labs found that the sodium fluoride added to U.S. water supplies is contaminated with the toxic elements lead, tungsten and aluminum all that have been linked to health problems from Alzheimer's disease to behavior issues in children. The EPA requires testing of water for heavy metals however they test before the fluoride compounds are added to the water. In some of the samples they also found uranium and strontium.

A few years ago researchers at Tulane University found that teeth treated with a coco extract (from the same cacao bean as used to make chocolate) worked better and made teeth more resilient than fluoride. Another reason to eat quality chocolate?

Other studies have shown that fluoride will accumulate in the brain and thyroid gland. This leads to low thyroid function (due to fluoride toxicity) which can cause fatigue, apathy, weakness, tiredness, and a permanent lowering of IQ within a developing fetus. Natural News, May, 2013.

Research at both the Harvard School of Public Health and the Icahn School of Medicine at Mt. Sinai published in the medical journal "Lancet", found that fluoride in public water systems contributes directly to mental and behavioral disorders in children. They found that fluoride obstructs proper brain development and can lead to autism spectrum disorders, dyslexia, ADHA and other health problems.

Another study published in the Journal Environmental Health Perspectives (July 2012) conducted by Harvard University found that children in high fluoride areas had significantly lower IQ's than those in low fluoride areas. Note: There are over 34 studies that have found the same pattern.

In 2006 the National Research Council (NRC) published a study showing that regular exposure to fluoride in water can lead to brittle bones, pre-clinical skeletal fluorosis, and arthritis.

Researchers at the University of Toronto have found that the fluorosilicates added to drinking water are industrial wastes and are not found in nature. They often contaminated with arsenic and radio-active particles that cause cancer.

The Fluoride Action Network (FAN), through a Freedom of Information Act (FOIA) investigation found that the government new as far back as 1962 that our black community was at far greater risk for dental fluorosis and they did nothing except cover it up. Reports found at the Center for Disease Control (CDC) in 2005 showed the same pattern. Additional information can be found at:
www.fluorideaction.net or www.fluoridealert.org

Many gardeners also like to cook and it has been found that chloramine will kill yeast (a species of fungus) when trying to bake bread using city water with chloramine in it. The water must be filtered in order for the bread to rise correctly. Similarly, if one is making compost tea the water must be filtered to remove these toxic chemicals if one wants good results. If the chemicals in the city water are killing those required microbes you have just made the tea somewhat ineffective defeating its purpose.